

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please cancel claims 5-6 without prejudice.

Listing of Claims:

1. (Currently Amended) Optical connector assembly ~~for optically connecting to~~ comprising a layer stack having at least one waveguide structure in at least one x-y plane of [[a]] said layer stack, said connector assembly comprising and a coupling device providing at least one first optical path, said waveguide structure comprising at least one optical waveguide providing at least one second optical path deflecting from said first optical path, said coupling device comprising first reference means adapted to co-operate with second reference means in said layer stack, characterised in that said second reference means are being adapted for aligning said coupling device to said waveguide or waveguide structure in both the x- and y- direction of said x-y plane as to optically couple said first optical path and said second optical path, wherein said coupling device further includes an area comprising an optical component for providing said first optical path.

2. (Previously presented) Optical connector assembly according to claim 1, wherein said coupling device comprises third reference means for aligning a mating optical device, providing a third optical path, with said

waveguide or waveguide structure as to optically couple said second optical path and said third optical path.

3. (Previously presented) Optical connector assembly according to claim 2, wherein said mating optical device comprises an optical connector having fourth reference means adapted to co-operate with said third reference means of said coupling device.

4. (Previously presented) Optical connector assembly according to claim 2, wherein said third reference means and said fourth reference means are guide reference means.

5-6. (Cancelled).

7. (Currently amended) Optical connector assembly according to claim ~~6~~ 1, wherein said optical component is a lens or lens array.

8. (Previously presented) Optical connector assembly according to claim 1, wherein said first optical path is deflected under a deflection angle from said second optical path by a reflective layer applied on a facet of at least said waveguide or a mirror mount positioned in said second optical path.

9. (Previously presented) Optical connector assembly according to claim 8, wherein said reflective layer(s) or said mirror mount are adapted to deflect optical signals between multiple first optical paths provided said coupling device and multiple corresponding second optical paths provided by multiple waveguides or waveguide structures.

10. (Previously presented) Optical connector assembly according to claim 8, wherein said mirror mount comprises reference means to position said mirror mount in said second optical path.

11. (Previously presented) Optical connector assembly according to claim 8, wherein said mirror mount comprises further reference means to align said mirror mount and said optical component, comprising corresponding reference means, as to optically couple said first optical path to said second optical path.

12. (Previously presented) Optical connector assembly according to claim 8, wherein at least one layer of said layer stack is adapted to position said mirror mount in said second optical path.

13. (Previously presented) Optical connector assembly according to claim 12, wherein said layer stack exhibits a space under said mirror mount for fixing said mirror mount.

14. (Previously presented) Optical connector assembly according to claim 12, wherein said mirror mount is supported by a cladding layer of the waveguide or waveguide structure.

15. (Previously presented) Optical connector assembly according to claim 12, wherein said mirror mount is supported by support structures.

16. (Previously presented) Optical connector assembly according to claim 8, wherein said coupling device comprises said mirror mount.

17. (Currently amended) Optical connector assembly according to claim ~~6~~ 8, wherein said mirror mount and said optical component are integrated in said coupling device.

18. (Previously presented) Optical connector assembly according to claim 1, wherein said first reference means and second reference means have restricted dimensions in said x-y plane.

19. (Previously presented) Optical connector assembly according to claim 1, wherein said first reference means and said second reference means are guide reference means or index reference means.

20. (Previously presented) Optical connector assembly according to claim 1, wherein said second reference means are provided in one layer of said layer stack.

21. (Previously presented) Optical connector assembly according to claim 1, wherein said second reference means are located in the layer stack while said second reference means remain available for aligning.

22. (Previously presented) Optical connector assembly according to claim 21, wherein said second reference means are located in the layer stack corresponding to a layer of the waveguide or waveguide structure.

23. (Previously presented) Optical connector assembly according to claim 22, wherein said second reference means are located on top of the layer stack.

24. (Previously presented) Optical connector assembly according to claim 1, wherein said layer stack is a printed circuit board or backplane.

25. (Previously presented) Coupling device for use in a optical connector assembly according to claim 1.

26. (Previously presented) Coupling device according to claim 25, wherein said first reference means are guide reference means, said guide reference means defining a plane that is substantially parallel to said x-y plane.

27. (Currently amended) Method for aligning a coupling device, providing at least one first optical path, to at least one waveguide structure, comprising at least one optical waveguide, in at least one x-y plane of a layer stack, said at least one waveguide providing at least one second optical path, deflecting from said first optical path, said coupling device comprising first reference means, said method comprising the steps of

applying second reference means in at least one layer of said layer stack in a predetermined x-direction and y-direction relative to said waveguide structure;

aligning said coupling device and said waveguide structure by matching said first reference means in the x- and y-direction of said x-y plane with said

second reference means, wherein said coupling device includes an area comprising an optical component providing at least a portion of said first optical path which is aligned over a deflection point in said layered stack between said second optical path and said first optical path.

28. (Previously presented) Method according to claim 27, wherein said second reference means are applied in a layer of said layer stack corresponding to a layer of the waveguide or waveguide structure and/or on top of said layer stack.

29. (Previously presented) Method according to claim 27, wherein third reference means are applied on said coupling device for aligning a mating optical device, providing a third optical path, with said waveguide or waveguide structure as to optically couple said second optical path and said third optical path.

30. (Previously presented) Method according to claim 29, wherein said first reference means and said third reference means are applied in predetermined positions relative to each other.

31. (Previously presented) Method according to claim 29, wherein said first reference means and second reference means are guide reference means or index reference means.

32. (Previously presented) Method according to claim 27, wherein a reflective layer is applied on a facet of said

waveguide or a mirror mount is provided in said second optical path.

33. (Previously presented) Method according to claim 32, wherein at least one layer of said layer stack is adapted to support said mirror mount or said coupling device in said second optical path.

34. (Previously presented) Method according to claim 33, wherein said mirror mount is supported by support structures provided in a space, said space at least substantially extending underneath said mirror mount.

35. (Previously presented) Method according to claim 32, wherein said mirror mount is fixed in said layer stack by providing an adhesive substance in at least a part of said space underneath said mirror mount.

36. (Previously presented) Method according to claim 35, wherein said adhesive substance exerts a pulling force on said mirror mount to accurately position said mirror mount in said second optical path.